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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,618	01/20/2005	Joshua Elliott	NZ002	1871

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Unisys Corporation
Unisys Way
M/S E8-114
Blue Bell, PA 19424-0001

EXAMINER	
DUONG, THOI V	
ART UNIT	PAPER NUMBER
2871	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,618	ELLIOTT, JOSHUA	
	Examiner	Art Unit	
	Thoi V. Duong	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/20/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-12 are currently pending in this application according to the preliminary amendment filed January 20, 2005.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagatani et al. (Nagatani, US 5,764,845).

Re claim 1, as shown in Figs. 1, 2, 15 and 26, Nagatani discloses an imaging screen having an array of light sensitive pixel devices 86 arranged in a first lattice pattern; and an optical layer having an array of light guides 10, each light guide 10 having a input end 12 and an output end 14, the input ends being arranged in a second lattice pattern, and the output ends 14 being arranged in the first lattice pattern and directed towards the pixel devices whereby the light guides 10 guide light from their input ends to their output ends and onto the pixel devices.

Re claim 2, as shown in Fig. 1B, the light guides 10 have light reflecting walls which each guide light towards a respective pixel device.

Re claim 3, the second lattice pattern 14 is a hexagonal lattice pattern as shown in Fig. 2B.

Re claim 4, one of the lattice patterns is a hexagonal lattice pattern 14 and the other lattice pattern is a rectangular lattice pattern 12 as shown in Figs. 2A and 2B.

Re claim 5, the first end 12 of each light guide 10 has a first shape, and the second end 14 of each light guide 10 has a second shape as shown in Figs. 2A and 2B,

wherein, re claim 6, the second shape 14 is substantially hexagonal; and

wherein, re claim 7, one of the shapes is substantially hexagonal and the other shape is substantially rectangular as shown in figs. 2A and 2B.

Re claim 8, the optical layer 10 physically engages the pixel devices as shown in Fig. 26.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kida et al. (Kida, US 5,321,789) in view of Thomas et al. (Thomas, US 6,978,409 B2).

As shown in Figs. 1-3, Kida discloses a display device including a display screen 103 including an array of pixel devices arranged in a first lattice pattern; and an optical layer 117 having an array of light guides 118, each light guide having a input end and an output end, the output ends being arranged in a second lattice pattern, and the input ends being arranged in the first lattice pattern and directed towards the pixel devices

whereby the light guides 118 guide light from the pixel devices from their input ends to their output ends (col. 6, lines 18-63).

However, Kida does not disclose a screen drive as well as a resampler.

As shown in Fig. 2, Thomas suggest a method for processing a display image comprising: using orthographics cameras to generate images on a regular pixel lattice under each lens and resampling the resulting images data to provide pixel data (regular pixel lattice) at locations corresponding to the positions of the lenses (microlens lattice) so as to obtain higher quality images (col. 7, line 61 through col. 8, line 22).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the display device of Kida with the teaching of Thomas by providing a screen drive for driving the pixel devices in accordance with a set of image data, and a resampler programmed to receive image data in a format compatible with the first lattice pattern, resample the image data into a format compatible with the second lattice pattern and output the resampled image data to the screen drive in order to obtain higher quality images (col. 8, lines 17-22).

6. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagatani et al. (Nagatani, US 5,764,845) in view of Surati et al. (Surati, US 6,456,339 B1) and Thomas et al. (Thomas, US 6,978,409 B2).

Nagatani discloses an imaging device that is basically the same as that recited in claims 9 and 10 except for a screen, an output interface for receiving image data from the light sensitive pixel devices and a resampler programmed to receive the image data from the output interface.

As shown in Fig. 13A, Surati discloses an imaging device comprising a screen 411, an input image 401 (Applicant's output interface) and a resampler 403 programmed to receive the image data from the output interface, resample the image data, and output the resampled image data (see also Fig. 8, col. 15, lines 6-19; and col. 21, lines 10-19).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the imaging device of Nagatani with the teaching of Surati by providing a screen, an output interface for receiving image data from the light sensitive pixel devices and a resampler programmed to receive the image data from the output interface in order to correct pixel distortion or misalignment of projected overlapping pixel arrays (see Abstract and col. 6, lines 38-46).

However, Surati is silent about resampling the image data into format compatible with a different lattice pattern. Thomas suggest a method for processing a display image comprising resampling the resulting images data to provide pixel data (regular pixel lattice) at locations corresponding to the positions of the lenses (microlens lattice) so as to obtain higher quality images (col. 7, line 61 through col. 8, line 22).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the display device of Nagatani with the teaching of Thomas by resampling the image data into format compatible with a different lattice pattern in order to obtain higher quality images (col. 8, lines 17-22).

Re claim 11, it is well known in the art that an imaging device such as liquid crystal display device can be made as hand-held and portable.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms, can be reached at (571) 272-1787.

Thoi V. Duong

4/12/2007